medications, age, sex and renal function. This session discuss the issues surrounding ARR as a screening test.

OMEGA-3 FATTY ACIDS TO PREVENT PRETERM BIRTH

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Preterm birth, especially early preterm birth before 34 weeks of gestation, accounts for more than 85% of all perinatal complications and neonatal deaths. Many of the perinatal complications can have life-long consequences, with an estimated annual cost of $1.4 billion for Australian society. This highlights the need to prioritise preterm birth prevention strategies.

One of the few interventions to successfully prevent early birth is supplementation with omega-3 fatty acids from marine sources, as shown in the 2018 Cochrane review of 70 randomised trials. In addition, our large clinical trial demonstrated that by measuring the levels of omega-3 fatty acids in blood it was possible to identify pregnant women with low omega-3 status. Most importantly, treating these women with omega-3 supplements can prevent around 14% (1 in 7) of all early preterm births. Collectively, these data have been the basis of the new evidence-based NHMRC Pregnancy Care Guideline recommending supplementation of women with low omega-3 status to reduce their risk of prematurity.

In partnership with SA Pathology, we are evaluating the adoption and effectiveness of early pregnancy omega-3 status screening and targeted advice linked to the screening result as part of routine pregnancy care. Preliminary results will be presented.

HEALTH CONSEQUENCES OF PRECONCEPTION WEIGHT LOSS

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Obesity is common in women of reproductive age. Maternal obesity not only increases the risk of adverse pregnancy outcomes but also has an enduring impact on the metabolic health of the offspring. Given this, management of obesity prior to pregnancy is critically important.

Current tools to optimise weight prior to pregnancy are sub-optimal. Lifestyle modification results in modest weight loss which may improve fertility but does not impact pregnancy outcomes. Bariatric surgery results in substantial weight loss. This improves pregnancy outcomes for the mother but may be detrimental to offspring, increasing the risk of a small for gestational age (SGA) neonate and possibly the risk of neonatal death. Alternative evidence-based tools are needed.

Substantial preconception weight loss can be achieved using a very low energy diet (VLED). Compared to standard care in women with obesity, this results in a shorter time to pregnancy and a reduction in a composite of maternal and neonatal adverse pregnancy outcomes. This data needs to be validated in a larger population and the mediators of improved pregnancy outcomes need to be further explored. In order to ensure an enduring benefit of maternal preconception weight loss on the offspring, long term follow-up studies are required.